

SECTION 11132

PROJECTION SCREENS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following: Electrically operated front projection screens.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 5 Section "Metal Fabrications" for suspension systems for projection screens.
 - 2. Division 6 Section "Rough Carpentry" for wood backing for recessed screen installation.
 - 3. Division 6 Section "Interior Architectural Woodwork" for wood trim for recessed screen installation.
 - 4. Division 8 Section "Standard Steel Doors and Frames" for metal frames of field-installed rear projection screens.
 - 5. Division 16 Sections for electrical wiring, connections, and installation of remote control switches for electrically operated projection screens.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data for each type of screen specified.
- C. Wiring diagram for electrically operated units.
- D. Shop drawings showing layout and types of projection screens. Show the

following:

1. Location of screen centerline.
2. Location of wiring connections.
3. Seams in viewing surfaces.
4. Connections to suspension systems for recess-mounted screens.
5. Anchorage details.
6. Accessories.
7. Frame details for front projection screens.

1.4 QUALITY ASSURANCE

- A. Single Source Responsibility: Obtain each type of projection screen required from a single manufacturer as a complete unit, including necessary mounting hardware and accessories.
- B. Coordination of Work: Coordinate layout and installation of projection screens with other construction supported by, or penetrating through, ceilings, including light fixtures, HVAC equipment, fire-suppression system, and partitions.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver projection screens until building is enclosed, other construction within spaces where screens will be installed is substantially complete, and installation of screens is ready to take place.
- B. Protect screens from damage during delivery, handling, storage, and installation.

PART 2 - PRODUCTS

2.1 PROJECTION SCREEN SURFACES, GENERAL

- A. Measurement of Gain of Screen Viewing Surface: Measure gain of screen viewing surface against that of a magnesium carbonate surface by means of a photogoniometer using test methods and test apparatus per FS GG-S-00172D(1) for determining effect of reflected light at various viewing angles on screen surfaces.

Ratings of 1.0 refer to those viewing surfaces having a reflectivity equal to the magnesium carbonate surface.

- B. Material and Viewing Surface of Front Projection Screens: Obtain screens manufactured from mildew- and flame-resistant fabric of type indicated for each type of screen specified and complying with the following requirements: Matte white viewing surface with minimum gain characteristics complying with FS GG-S-00172D(1) for Type A screen surface. Provide matte white surfaces unless otherwise indicated.

2.2 ELECTRICALLY OPERATED FRONT PROJECTION SCREENS

- A. General: Provide manufacturer's standard UL-listed and UL-marked units consisting of case, screen, motor, controls, mounting accessories, and other components required for a complete installation and to comply with requirements indicated for screen surface and controls and for case, motor, and screen under description of operation and type. Remotely control operation of each screen to comply with the following: Single Station Control: Three-position, UL-listed control switch for each screen with metal device box and cover plate for flush wall mounting and for connection to 120 V a.c. power supply.
- B. End-Mounted-Motor-Operated Screens with Automatic Ceiling Closure (2-EA.): Units designed and fabricated for recessed installation in ceiling with bottom of case composed of two panels fully enclosing screen and motor, one panel hinged and connected to drive mechanism to open and close automatically when screen is lowered and fully raised and the other panel removable or openable for access to interior of case; and complying with the following requirements:
 - 1. Screen Case: Wood sides and top with metal-lined motor compartment and wood or aluminum bottom panels, factory-primed and constructed as follows:
 - a. Offset mount bottom panels to case in position where their bottom surfaces will align flush with finished surface of adjoining ceiling and the bottom edges of case surrounding panels will be recessed by the depth of, and concealed behind, overlapping ceiling finish.
 - b. Provide single or double top as standard with manufacturer.
 - 2. Motor: Instant reversing, gear drive motor of size and capacity recommended by screen manufacturer with permanently lubricated ball bearings, automatic thermal overload protection, preset limit switches to automatically stop screen in "up" and "down" positions, and positive stop action to prevent coasting. Locate motor in its own compartment as follows: On right end of screen, unless otherwise indicated.

3. Screen: As indicated below, with top edge mounted on, and securely anchored to, rigid metal roller supported by self-aligning bearings in brackets.
 - a. Material: Vinyl-coated glass fiber fabric.
 - b. Size of Viewing Surface: As indicated.
 - c. Provide extra drop length of dimension indicated to comply with the following requirements for fabric color and location of drop length:
 - 1) Color: Same as viewing surface.
 - 1) Color: Black.
 - 2) Location: At top of screen.
 - 3) Location: At bottom of screen.

C. Motor-In-Roller-Operated Screens with Automatic Ceiling Closure (1-EA.): Units designed and fabricated for recessed installation in ceiling with bottom of case composed of two panels fully enclosing screen and wiring compartments, one panel hinged and activated by operation of screen to open and close automatically when screen is lowered and fully raised and the other panel removable or can be opened for access to interior of case; and complying with the following requirements:

1. Screen Case: Wood sides and top with metal-lined wiring compartment and wood or aluminum bottom panels, factory-primed and constructed as follows: Offset mount bottom panels to case in position where their bottom surfaces will align flush with finished surface of adjoining ceiling and the bottom edges of case surrounding panels will be recessed by the depth of, and concealed behind, overlapping ceiling finish.
2. Motor: Instant reversing motor of size and capacity recommended by screen manufacturer with permanently lubricated ball bearings, automatic thermal overload protection, preset limit switches to automatically stop screen in "up" and "down" positions, and positive stop action to prevent coasting. Mount motor inside roller with vibration insulators to reduce noise transmission.
3. Screen: As indicated below, with top edge mounted on, and securely anchored to, 3-inch-diameter rigid metal roller supported by vibration- and noise-absorbing supports and bottom edge formed into a pocket holding a 3/8-inch-diameter metal rod with ends of rod protected by plastic caps.
 - a. Material: Vinyl-coated glass fiber fabric.
 - b. Size of Viewing Surface: 1 - 6' x 6' and 2 - 8' x 8'.
 - c. Provide extra drop length of dimension indicated to comply with the following requirements for fabric color and location of drop length:

- 1) Color: Same as viewing surface.
- 2) Location: At bottom of screen.

D. Products: Subject to compliance with requirements, provide one of the following:

1. End-Mounted-Motor-Operated Screens with Automatic Ceiling Closure:
 - a. "Executive Electrol," Da-Lite Screen Co., Inc.
 - b. "Ambassador," Draper Shade & Screen Co., Inc.
2. Motor-In-Roller-Operated Screens with Automatic Ceiling Closure:
 - a. "Rollfix Trapdoor," Bretford Manufacturing, Inc.
 - b. "BoardRoom," Da-Lite Screen Co., Inc.
 - c. "Envoy," Draper Shade & Screen Co., Inc.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install projection screens at locations indicated in compliance with screen manufacturer's instructions.
- B. Install front projection screens with screen cases in position and relationship to adjoining construction as indicated, securely anchored to supporting substrate, and in manner that produces a smoothly operating screen with plumb and straight vertical edges and plumb and flat viewing surfaces when screen is lowered. Test electrically operated units to verify that screen, controls, limit switches, closure and other operating components are in optimum functioning condition.

3.2 PROTECTION AND CLEANING

- A. Protect projection screens after installation from damage during construction. If despite such protection damage occurs, remove and replace damaged components or entire unit as required to provide units in their original, undamaged condition. Provide temporary covering of screens until time of Substantial Completion. Use type of covering approved by screen manufacturer that will effectively protect screen from abrasion, breakage, or other damage.
- B. Wash projection screens immediately prior to date scheduled for inspection intended to establish date of Substantial Completion. Use methods and cleaning materials recommended by screen manufacturer, taking care not to scratch or damage optical coatings or screen substrates in any way.

END OF SECTION 11132